



CUSTOMER NO. 29315

Application Serial No.: 09/750,319
Attorney Docket No.: 23452-121

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S) : Robert Walter SCHREIBER CONFIRMATION No.: 6995
SERIAL NUMBER : 09/750,319 EXAMINER : Jacques Veillard
FILING DATE : December 29, 2000 ART UNIT : 2175
FOR : SYSTEM AND METHOD FOR STORING CONCEPTUAL INFORMATION

Appellant's Brief On Appeal Under 37 C.F.R. §1.192

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Sir:

Further to the Notice of Appeal filed on March 29, 2004, Appellant herewith submits Appellant's Brief on Appeal in triplicate pursuant to 37 C.F.R. §1.192(a).

In accordance with §1.17(c), a check in the amount of \$330.00 representing the fee for filing an Appeal Brief is attached. It is believed that no other fees are due in connection with this submission beyond those that otherwise may be provided for in documents accompanying this paper. However, if it is determined otherwise, the Commissioner is authorized to credit any overpayment or charge any deficiencies to the undersigned's account, Deposit Account No. 50-0311, Reference No. 23452-121.

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(1) REAL PARTY IN INTEREST

By virtue of the assignment recorded March 7, 2001 at reel 011564, frame 0868, the real party in interest is **International Business Machines Corporation**, a New York corporation having a place of business in Armonk, New York.

(2) RELATED APPEALS AND INTERFERENCES

Based on information and belief, there are no related appeals or interferences.

(3) STATUS OF THE CLAIMS

Claims 1-20 are pending in this application. Independent claims 1, 6, 11, and 16 and dependent claims 2, 3, 7, 8, 12, 13, 17, and 18 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent No. 6,101,500 to Lau ("Lau"). Dependent claims 4, 5, 9, 10, 14, 15, 19, and 20 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over Lau in view of U.S. Patent No. 6,034,607 to Becker ("Becker").

Appellant appeals these rejections.

(4) STATUS OF AMENDMENTS

Appellant has not amended the claims subsequent to the Reply and Amendment under 37 C.F.R. §1.111 filed on September 8, 2003.

(5) SUMMARY OF THE INVENTION

The invention relates to a system and method for storing conceptual information as a single object. In an exemplary embodiment, data may be stored in a hierarchical data list (HDL) or a hierarchical data container (HDC). An HDL may be a list of data elements that stores a collection of information relating to a concept, in a single object. The HDL may include HDCs containing one or more data elements having information relating to a particular aspect of the concept (See specification page 3, line 24 – page 4, line 7; page 4, lines 18-19; page 6, line 23 – page 7, line2; page 19, lines 20-28).

The system may include an HDC creating module and an HDL creating module. HDC creating module may be used to create an HDC to be stored within an HDL. If an HDL is created, HDL creating module may be used to create the HDL. The HDCs and HDLs may be created using one or more commands input by a user. (See specification page 29, line 24 – page 30, line 4).

The invention also relates to a system and method for storing conceptual information. In an exemplary embodiment, colors may be stored in the database as equations identifying a three-dimensional color space. A color attribute may be stored by identifying a red, green, and blue characteristic of a particular color using a predetermined range of values. For example, each red, green, and blue characteristic of a color may be expressed as a percentage from zero (0) to one-hundred (100). For example, a color having red, green, and blue attributes equal to zero (0) may define a black color. Alternatively, if each red, green, and blue attribute is defined as one-hundred (100) percent of each color, then the color defined may be white. (See specification page 3, line 18; page 21, lines 10-15 and 19-21).

(6) ISSUES

1. Whether claims 1-3, 6-8, 11-13, and 16-18 are anticipated by Lau based on 35 U.S.C 102(e).
2. Whether claims 4, 5, 9, 10, 14, 15, 19, and 20 are obvious over Lau in view of Becker based on 35 U.S.C. §103(a).

(7) GROUPING OF CLAIMS

Claims 1-20 are separately patentable. Appellant, however, has grouped claims that include similar features. In particular, Appellant requests that claims 1, 2, 6, 7, 11, 12, 16, and 17 be considered to stand and fall together; that claims 3, 8, 13, and 18 be considered to stand and fall together; that claims 4, 9, 14, and 19 be considered to stand and fall together; and that claims 5, 10, 15, and 20 be considered to stand and fall together.

(8) ARGUMENT

Appellant submits that the invention is significantly different from the cited references. Thus, for the following reasons, it is respectfully submitted that claims 1-20 are patentably distinguishable over the cited references. Regarding issue one, the question to be resolved is whether Lau anticipates claims 1-3, 6-8, 11-13, and 16-18. Appellant respectfully submits that the asserted rejection is improper, because Lau fails to disclose each of the claim elements. Appellant provides below a discussion of the requirements for anticipation under 35 U.S.C. §102(e) and an application of these requirements to each claim or claim grouping. Regarding issue two, the question to be resolved is whether claims 4, 5, 9, 10, 14, 15, 19, and 20 are rendered obvious over Lau in view of Becker. Appellant respectfully submits that the asserted rejection is improper because Lau and Becker, both alone and in combination with one another, fail to teach or suggest each of the claimed elements. Appellant provides below a discussion of the requirements for a *prima facie* case of obviousness under 35 U.S.C. §103(a) and an application of these requirements to each claim or claim grouping.

Rejection Under 35 U.S.C. §102(e) as Allegedly Anticipated by Lau**Requirements for Anticipation**

As stated in the MPEP § 2131, a claim is anticipated only if each element as set forth in the claim is found, either expressly or inherently described in a single prior art

reference. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Independent Claims 1, 6, 11, and 16 and Dependent Claims 2, 7, 12, and 17

Appellant respectfully submits that the rejection of claims 1, 2, 6, 7, 11, 12, 16, and 17 under 35 U.S.C §102(e) as allegedly being anticipated by Lau is improper for at least failing to disclose all of the features of the claims.

Claim 1 includes, *inter alia*, storing means for storing data in the at least one hierarchical container, wherein the data stored by the at least one hierarchical data list comprises a concept. Claims 6, 11, and 16 disclose similar features. Lau does not disclose at least these features.

In an exemplary embodiment of the invention, an HDL may be a list of data elements that store, in a single object, a collection of information relating to a concept. The HDL may also include HDCs containing one or more data elements having information relating to particular aspects of the concept. (See specification page 3, lines 16-23; page 6, line 23 – page 7, line 2; page 19, lines 20-28). Appellant submits that the recited “storing means” is defined in the specification as an HDL that stores, in a single object, a collection of information relating to a concept.

Lau is directed to a system for managing network entities using a hierarchical database having a plurality of objects. (See Lau, abstract and col. 12, lines 24-30). In particular, the object hierarchy includes a root object, a number of container objects, and a number of leaf objects. (See Lau col. 12, lines 27-28). Thus, it appears that Lau uses a plurality of hierarchical objects to store related information; whereas, Appellant’s invention uses a single object to store a concept.

The Examiner appears to equate the concept recited in claim 1 with the network health disclosed by Lau. Lau discloses that network health is determined by combining indicators of various child objects into a single health value for a parent object. (See Lau col. 2, lines 59-60), such that a health index of a parent object depends on the health indices of the child objects. (See Lau col. 4, lines 35-37). In an example given

in Lau, if a network administrator observes a server with a high health index indicating a problem, the network administrator can discover the object below the server level that is contributing to the high health index value. (See Lau col. 21, lines 25-27). The network administrator would then expand the server object such that the child objects are displayed with their respective health indices. (See Lau col. 21, lines 27-33). It appears that these network health indices are interdependent and that the network health information is stored over several child objects. Thus, Lau's network health information, which the Examiner equates with the claim term "concept", is not stored in a single object.

Since the network health information is stored among several objects within the hierarchical database, a user of Lau's system must drill down through several objects until the network administrator identifies the problematic object. As a result, a network administrator must access several objects before retrieving the desired information.

Appellant's invention, on the other hand, stores all the conceptual information together in a single object, specifically an HDL. Thus, a single call may be used to request the conceptual information. Based on at least this difference, Appellant submits that Lau does not disclose storing means for storing data in the at least one hierarchical container and wherein the data stored by the at least one hierarchical data list comprises a concept. As a result, Lau does not anticipate claims 1, 6, 11, and 16, and the Examiner's rejection is improper.

Furthermore, independent claim 1 recites, *inter alia*, enabling client terminal users to create at least one hierarchical data container and enabling client terminal users to create at least one hierarchical data list that comprises the at least one hierarchical data container. Lau does not disclose these features.

End users in a client-server communications network may access the server for information stored in a database. It is well known in the art that each end user may not be able to access all the network management and maintenance functions of a traditional client-server network. The network administrator is typically the only person who has access to such functions. Appellant submits that Lau clearly discloses a traditional client-server network, wherein only the network administrator has access to

the system. Lau does not teach or suggest the claimed client terminal users, which are defined in the specification to exclude network administrators.

In contrast, Lau is specifically directed to a program for enabling network administrators to manage objects in a hierarchical data structure by determining “a composite index for a network object in the hierarchical structure from one or more parameters, based on expert judgment.” (See Lau, col. 4, lines 30-36). (Emphasis added). Lau’s composite index is determined by combining a first and a second parameterized property, which are associated with a first object, wherein the composite index represents a relative health of the first object and has a standardized value range. (See Lau, col. 4, lines 42-45). By determining a health index for the overall health, Lau reduces “the amount of information that must be processed by the network administrator.” (See Lau, col. 3, lines 6-9). (Emphasis added).

The Examiner alleges that “the network administrator is a user.” (See page 3, first paragraph of the Final Office Action). Appellant contends, however, that Lau does not disclose that a client terminal user, other than a network administrator possessing expert judgment, could perform the functions described in Lau’s method.

Assuming *arguendo* that a network administrator is the same as a client terminal user, the reference still remains deficient, because the claim requires users (plural), and Lau discloses only a single network administrator. Thus, at least for this additional reason, Appellant submits that independent claims 1, 6, 11, and 16 are patentable over Lau.

Since Lau does not disclose the invention claimed in independent claims 1, 6, 11, and 16 and their corresponding dependent claims 2, 7, 12, and 17, these claims clearly are not anticipated by Lau’s disclosure. For the foregoing reasons, the Examiner’s rejection must be withdrawn.

Dependent Claims 3, 8, 13, and 18

Claims 3, 8, 13, and 18 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Lau. As set forth above, Lau fails to disclose each of the features in the independent claims and thus, necessarily fails to disclose the features of the

dependent claims. Therefore, Appellant respectfully submits that claims 3, 8, 13, and 18 are also patentable at least by virtue of their dependency.

Dependent claims 3, 8, 13, and 18 further recite the feature that the concept stored by the at least one hierarchical data list is a color. Lau does not disclose this feature.

In an exemplary embodiment, the invention uses an HDL including one or more HDCs to store conceptual color information. Colors may be stored as equations identifying three dimensional color space, and an attribute of a color may be ascribed to a particular data element in an HDL or HDC. (See specification page 21, lines 10-23). In another example, an HDL may be used to store conceptual information relating to a man's clothing ensemble. The HDL may include all information relating to one ensemble. By storing all the information together as a single object only, a single call from a server to request all or a portion of the HDL may be needed. The HDL may include an HDC for color, an HDC for a shirt, an HDC for pants, and an HDC for shoes. (See specification page 19, lines 20-28; Fig. 5). In light of this description, Appellant submits that a concept is a collection of information that may be stored in an HDL.

The Examiner appears to equate the claimed "concept" with Lau's network health information. Claim 3 recites, explicitly, that the concept is a color. Appellant submits that Lau does not anticipate this feature.

While Lau discloses a system having a color indicator associated with a network object, the color indicator is a flag that represents the degree of confidence of the object. (See Lau, abstract). Lau's color indicator is not a concept stored by the at least one hierarchical data list as a color. Rather, Lau uses information obtained through a network manager program to determine a health index for network objects organized into a hierarchy (See Lau col. 13, lines 51-57; col. 14, lines 46-48). The network management program then maps the health index to a color code in order to display the color flag that corresponds to each network object/entity. (See Lau col. 12, lines 1-4).

Thus, it appears that Lau is merely determining a flag color based on a health index determined for each network object. At best, Lau's network objects store a health

index that is associated with a flag color and do not store conceptual color information. Since Lau's network objects do not store conceptual color information, Appellant submits that Lau fails to disclose the feature of, wherein the concept stored by the at least one hierarchical data list is a color. Furthermore, Appellant submits that Lau does not disclose storing conceptual color information, as set forth in the above description. Thus, Appellant submits that Lau does not disclose the feature of claims 3, 8, 13, and 18.

Rejection Under 35 U.S.C. §103(a), as Allegedly Obvious, Lau in view of Becker

Requirements for a prima facie case of obviousness

As stated in the MPEP § 2143, three requirements must be met to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a). The requirements are: (1) the prior art must teach or suggest all the claim elements, (2) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or combine reference teachings, and (3) there must be a reasonable expectation of success.

Appellant respectfully submits that at least the first two requirements are not met by the asserted rejection. Therefore, Appellant examines those requirements in further detail.

All of the claim elements must be taught or suggested

To establish *prima facie* obviousness of a claimed invention, all the claim elements must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Suggestion or Motivation to modify the references

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Dependent Claims 4, 9, 14, and 19

Claims 4, 9, 14, and 19 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over Lau in view of Becker. As set forth above, Lau fails to disclose each of the features in the independent claims and thus, necessarily fails to disclose the features of the dependent claims. Therefore, Appellant respectfully submits that claims 4, 9, 14, and 19 are also patentable at least by virtue of their dependency.

Furthermore, Appellant submits that there is no legally proper suggestion or motivation to combine Lau and Becker.

One of the criteria necessary to establish a *prima facie* case of obviousness is that there must exist some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Moreover, the teaching or suggestion to make the claimed combination must be found in the prior art, not in Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991).

In the Office Action, with regard to dependent claims 4, 5, 9, 10, 14, 15, 19, and 20, the Examiner acknowledges that Lau "does not explicitly teach the system wherein the color is defined according to a three dimensional color space." (See page 5, paragraph number 9 of the May 6, 2003 Office Action).

The Examiner, however, relies on Becker for disclosing this feature: "Becker teaches an interpolation method between [sic] relational table for the purposes of animating data visualization...includes the features, wherein the color is defined according to a three dimensional color space." (See page 5, paragraph 9 of the May 6, 2003 Office Action).

Appellant submits that neither Lau nor Becker set forth any teaching, suggestion, or motivation to combine the references. Further, Appellant contends that no motivation or suggestion to combine Lau or Becker may be found in the knowledge generally available to those skilled in the art.

The Examiner relies on the combination of Lau in view of Becker in the rejection of claims 4, 5, 9, 10, 14, 15, 19, and 20. Appellant respectfully traverses this rejection on the grounds that Becker is non-analogous to the claimed invention. The Becker reference is directed to providing visualization of scattered data when the number of data points is large. (See Becker col. 1, lines 34-36). Thus, it is submitted that the Becker reference is non-analogous to the claimed invention. For at least these reasons, withdrawal of this rejection is earnestly sought.

Appellant further submits that there is no legally proper suggestion or motivation to combine Lau with a reference disclosing a method and system that visually approximates a scatter plot and provides smooth animation of graphics by interpolated data.

Assuming *arguendo* that there was a teaching, suggestion, or motivation to combine Lau and Becker, the rejection would still be improper as Lau and Becker, both alone and in combination with one another, fail to disclose teach or suggest all of the claim elements.

Dependent claims 4, 9, 14, and 19 recite the feature wherein the color is defined according to a three dimensional color space.

The Examiner acknowledges that Lau is deficient because Lau does not teach a system wherein the color is defined according to three dimensions. (See page 5, paragraph number 9 of the May 6, 2003 Office Action). The Examiner relies on Becker to teach this feature.

The Examiner cites Becker Fig. 3, Fig. 8, col. 3, lines 11-13, lines 26-29, col. 8, lines 30-36, and col. 11, lines 32-38 to support the position that:

"[I]t would have been obvious to a person of ordinary skill in the art at the time of the Applicant's invention to modify the teachings of Lau with the teachings of Becker to incorporate in Lau's system a three dimensional color space as taught by Becker with the motivation for a user to visualize data into multivariate color for the smooth animation of a scatter plot along one or more additional

dimensions.” (See page 5, paragraph number 9 of the May 6, 2003 Office Action).

Appellant submits that there is no support for this position found in Becker. Becker discloses a three-dimensional splat plot that plots “education,” “occupation,” and “hours worked,” where “income” is mapped to color and an external slider is used to animate over “age.” (See Becker col. 3, lines 26-30). It appears that Becker is merely plotting the correlation of variables in three dimensions using colors that are mapped to different variables, such that the plot is easier to visualize. Thus, Becker is not defining a color according to a three dimensional color space.

For at least these reasons, Appellant submits that the Examiner has failed to establish a *prima facie* case of obviousness with regards to claims 4, 9, 14, and 19. Accordingly, the rejection of these claims must be withdrawn.

Dependent Claims 5, 10, 15, and 20

Claims 5, 10, 15, and 20 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over Lau in view of Becker. As set forth above, Lau fails to disclose each of the features in the independent claims and thus necessarily fails to disclose the features of the dependent claims. Therefore, Appellant respectfully submits that claims 5, 10, 15, and 20 are also patentable at least by virtue of their dependency.

As set forth in the discussion of dependent claims 4, 9, 14, and 19, there is no legally proper suggestion or motivation to combine Lau and Becker.

Dependent claims 5, 10, 15, and 20 recite the feature “wherein the color is defined according to red, green, and blue attributes of the color.” Lau and Becker, both alone and in combination with one another, fail to teach or suggest this feature.

Regarding claim 5, the Examiner maintains the position that: “the combination of Lau and Becker as modified teaches the claimed invention limitations, wherein the color is defined according to red, green, and blue attributes of the color.” (See page 6, paragraph number 9 of the May 6, 2003 Office Action). The Examiner relies on col. 3, line 60 to col. 4, line 8 of Becker for support.

As set forth above, Becker is merely plotting the correlation of variables using colors that are mapped to different variables, such that the plot is easier to visualize. The portion of Becker relied upon by the Examiner discloses giving a "categorical attribute", such as a color, a numerical value in order be able to sort data or perform other operations based on the numerical value. (See Becker col. 4, lines 1-6). Becker is not defining a color according to a three dimensional color space. Furthermore, Becker does not teach or suggest wherein the color is defined according to red, green, and blue attributes of the color. At best, Becker discloses using red, green, and blue to map to attributes for visualizing scatter plots; however, Becker does not teach or suggest defining the color according to red, green, and blue attributes.

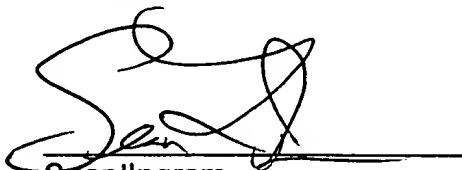
For at least these reasons, Appellant submits that the Examiner has failed to establish a *prima facie* case of obviousness with regards to claims 5, 10, 15, and 20. Accordingly, the rejection of these claims must be withdrawn.

Because the references relied upon by the Examiner, either alone or in combination with one another, fail to disclose, teach or suggest all of the features of the claims as set forth above, Appellants respectfully request that the rejection of each of pending claims 1-20 under 35 U.S.C. §102, and/or 35 U.S.C. §103 be reversed.

The present Brief on Appeal is being filed in triplicate.

Dated: June 29, 2004

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Sean Ingram', written over a horizontal line.

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APPENDIX A—PENDING CLAIMS

1. **(Previously Presented)** A system for enabling client terminal users to manage conceptual information, comprising:

hierarchical data container creating means for enabling client terminal users to create at least one hierarchical data container;

hierarchical data list creating means for enabling client terminal users to create at least one hierarchical data list that comprises the at least one hierarchical data container; and

storing means for storing data in the at least one hierarchical data container; wherein the data stored by the at least one hierarchical data list comprises a concept.

2. **(Original)** The system of claim 1, wherein the concept is stored as a single entity.

3. **(Original)** The system of claim 1, wherein the concept is a color.

4. **(Original)** The system of claim 3, wherein the color is defined according to a three dimensional color space.

5. **(Original)** The system of claim 3, wherein the color is defined according to red, green, and blue attributes of the color.

6. **(Previously Presented)** A system for enabling client terminal users to manage conceptual information, comprising:

a hierarchical data container creating module that enables client terminal users to create at least one hierarchical data container;

a hierarchical data list creating module that enables client terminal users to

create at least one hierarchical data list that comprises the at least one hierarchical data container; and

 a storing module that stores data in the at least one hierarchical data container;
 wherein the data stored by the at least one hierarchical data list comprises a concept.

7. **(Original)** The system of claim 6, wherein the concept is stored as a single entity.

8. **(Original)** The system of claim 6, wherein the concept is a color.

9. **(Original)** The system of claim 8, wherein the color is defined according to a three dimensional color space.

10. **(Original)** The system of claim 8, wherein the color is defined according to red, green, and blue attributes of the color.

11. **(Previously Presented)** A processor readable medium comprising processor readable code for enabling client terminal users to manage conceptual information, comprising:

 hierarchical data container creating code that causes a processor to enable client terminal users to create at least one hierarchical data container;

 hierarchical data list creating code that causes a processor to enable client terminal users to create at least one hierarchical data list that comprises the at least one hierarchical data container; and

 storing code that causes a processor to store data in the at least one hierarchical data container;

 wherein the data stored by the at least one hierarchical data list comprises a concept.

12. **(Original)** The medium of claim 11, wherein the concept is stored as a single entity.
13. **(Original)** The medium of claim 11, wherein the concept is a color.
14. **(Original)** The medium of claim 13, wherein the color is defined according to a three dimensional color space.
15. **(Original)** The medium of claim 13, wherein the color is defined according to red, green, and blue attributes of the color.
16. **(Previously Presented)** A method for enabling client terminal users to manage conceptual information, comprising the steps of:
 enabling client terminal users to create at least one hierarchical data container;
 enabling client terminal users to create at least one hierarchical data list that comprises the at least one hierarchical data container; and
 storing data in the at least one hierarchical data container;
 wherein the data stored by the at least one hierarchical data list comprises a concept.
17. **(Original)** The method of claim 16, wherein the concept is stored as a single entity.
18. **(Original)** The method of claim 16, wherein the concept is a color.
19. **(Original)** The method of claim 18, wherein the color is defined according to a three dimensional color space.
20. **(Original)** The method of claim 18, wherein the color is defined according to red, green, and blue attributes of the color.